Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims:

Listing of Claims:

1. (Currently amended) A belt type continuous variable transmission comprising

a primary sheave ~~(29)~~ that outputs torque,

a secondary sheave ~~(30)~~ that receives torque from the primary sheave ~~(29)~~, and

a belt ~~(31)~~ entrained between the primary sheave ~~(29)~~ and the secondary sheave ~~(30)~~ in an endless manner to transmit torque to the secondary sheave ~~(30)~~ from the primary sheave ~~(29)~~ , and

wherein the primary sheave ~~(29)~~ comprises

a first sheave body ~~(34a)~~,

a second sheave body ~~(34b)~~ provided to be relatively slidable in a direction toward and away from the first sheave body ~~(34a)~~ and forming between it and the first sheave body ~~(34a)~~ a belt groove ~~(37)~~, about which the belt ~~(31)~~ is entrained,

a plurality of push bodies ~~(45)~~ that rotate together with the second sheave body ~~(34b)~~ and move radially of the second sheave body ~~(34b)~~ according to centrifugal forces generated at the time of rotation of the second sheave body ~~(34b)~~, such movements causing the second sheave body ~~(34b)~~ to slide to change a width of the belt groove ~~(37)~~, and

a plurality of stoppers ~~(66)~~ that restrict movements of the push bodies ~~(45)~~ by contacting with outer surfaces ~~(47a)~~ of the push bodies ~~(45)~~ when the second sheave body ~~(34b)~~ reaches a position of minimum transmission gear ratio, in which the belt groove ~~(37)~~ is made smallest in width, the stoppers ~~(66)~~ being shaped to accelerate partial wear of the outer surfaces ~~(47a)~~ of the push bodies ~~(45)~~.

2. (Currently amended) The belt type continuous variable transmission according to claim 1, wherein the stoppers ~~(66)~~ are formed on the second sheave body ~~(34b)~~.

3. (Currently amended) The belt type continuous variable transmission according to claim 1, wherein the push bodies ~~(45)~~ comprises a roller weight and at least outer peripheries thereof are lower in hardness than the stoppers ~~(66)~~.

4. (Currently amended) The belt type continuous variable transmission according to any one of claims 1 to 3, wherein the respective stoppers ~~(66)~~ comprise a stopper surface ~~(67)~~ opposed to an outer surface ~~(47a)~~ of the push body ~~(45)~~ and at least one projection ~~(68, 81, 82, 91)~~ projecting from the stopper surface ~~(67)~~.

5. (Currently amended) The belt type continuous variable transmission according to any one of claims 1 to 3, wherein the respective stoppers ~~(66)~~ comprise a stopper surface ~~(100, 110)~~ opposed to an outer surface ~~(47a)~~ of the push body ~~(45)~~, and the stopper surface ~~(100, 110)~~ is non-parallel to the outer surface ~~(47a)~~ of the push body ~~(45)~~.

6. (Currently amended) The belt type continuous variable transmission according to claim 5, wherein the stopper surface ~~(100)~~ comprises a curved surface ~~(101)~~ having a top ~~(100a)~~ that projects arcuately toward the outer surface ~~(47a)~~ of the ~~roller weight~~ push body ~~(45)~~, and the top ~~(100a)~~ of the curved surface ~~(101)~~ contacts with the outer surface ~~(47a)~~ of the push body ~~(45)~~.

7. (Currently amended) The belt type continuous variable transmission according to claim 5, wherein the push bodies ~~(45)~~ comprise a first corner ~~(112a)~~ and a second corner ~~(112b)~~, the stopper surfaces ~~(100)~~ comprise a curved surface ~~(111)~~ being arcuately concave in opposition to the outer surface ~~(47a)~~ of the ~~roller weight~~ push body ~~(45)~~ , the curved surfaces ~~(111)~~ comprise a first end ~~(110a)~~ and a second end ~~(110b)~~ spaced from each other, and the first and second ends ~~(110a, 110b)~~ contact with the first and second corners ~~(112a, 112b)~~ of the push body ~~(45)~~.

8. (Currently amended) A belt type continuous variable transmission comprising

a primary sheave ~~(29)~~ that outputs torque,

a secondary sheave ~~(30)~~ that receives torque from the primary sheave ~~(29)~~, and

a belt ~~(31)~~ entrained between the primary sheave ~~(29)~~ and the secondary sheave ~~(30)~~ in an endless manner to transmit torque to the secondary sheave ~~(30)~~ from the primary sheave ~~(29)~~ , and

wherein the primary sheave ~~(29)~~ comprises

a first sheave body ~~(34a)~~,

a second sheave body ~~(34b)~~ provided to be relatively slidable in a direction toward and away from the first sheave body ~~(34a)~~ and forming between it and the first sheave body ~~(34a)~~ a belt groove ~~(37)~~, about which the belt ~~(31)~~ is entrained,

a plurality of push bodies ~~(45)~~ that rotate together with the second sheave body ~~(34b)~~ and move radially of the second sheave body ~~(34b)~~ according to centrifugal forces generated at the time of rotation of the second sheave body ~~(34b)~~, such movements causing the second sheave body ~~(34b)~~ to slide to change a diameter, at which the belt ~~(31)~~ is entrained about the primary sheave ~~(29)~~, and

a plurality of stoppers ~~(66)~~ that restrict movements of the push bodies ~~(45)~~ by contacting with outer surfaces ~~(47a)~~ of the push bodies ~~(45)~~ when the second sheave body ~~(34b)~~ reaches a position of minimum transmission gear ratio, in which a diameter, at which the belt ~~(31)~~ is entrained, is made largest, the stoppers ~~(66)~~ comprising at least one projection ~~(68, 81, 82, 91)~~ projecting toward the outer surface ~~(47a)~~ of the push body ~~(45)~~.

9. (Currently amended) The belt type continuous variable transmission according to claim 8, wherein the push bodies ~~(45)~~ comprise a roller weight, and at least outer peripheries thereof are lower in hardness than the projections ~~(68, 81, 82, 91)~~ of the stoppers ~~(66)~~.

10. (Currently amended) The belt type continuous variable transmission according to claim 1 or 8, wherein the second sheave body ~~(34b)~~ comprises a plurality of cam surfaces ~~(41)~~, with which the push bodies ~~(45)~~ contact, and the stoppers ~~(66)~~ are positioned at ends of the cam surfaces ~~(41)~~.

11. (Currently amended) The belt type continuous variable transmission according to claim 10, wherein the primary sheave ~~(29)~~ comprises a cam plate ~~(43)~~ opposed to the cam surfaces ~~(41)~~ of the second sheave body ~~(34b)~~ and rotating

together with the second sheave body ~~(34b)~~, and the push bodies ~~(45)~~ are interposed between the cam surfaces ~~(41)~~ and the cam plate ~~(43)~~ and contact with the stoppers ~~(66)~~ and the cam plate ~~(43)~~ when the second sheave body ~~(34b)~~ reaches a ~~a~~ position of minimum transmission gear ratio.

12. (Currently amended) A belt type continuous variable transmission comprising

a primary sheave ~~(29)~~ that outputs torque,

a secondary sheave ~~(30)~~ that receives torque from the primary sheave ~~(29)~~, and

a belt ~~(31)~~ entrained between the primary sheave ~~(29)~~ and the secondary sheave ~~(30)~~ in an endless manner to transmit torque to the secondary sheave ~~(30)~~ from the primary sheave ~~(29)~~ , and

wherein the primary sheave ~~(29)~~ comprises

a first sheave body ~~(34a)~~,

a second sheave body ~~(34b)~~ provided to be relatively slidable in a direction toward and away from the first sheave body ~~(34a)~~ and forming between it and the first sheave body ~~(34a)~~ a belt groove ~~(37)~~, about which the belt ~~(31)~~ is entrained,

a plurality of roller weights ~~(45)~~ that rotate together with the second sheave body ~~(34b)~~ and move radially of the second sheave body ~~(34b)~~ according to centrifugal forces generated at the time of rotation of the second sheave body ~~(34b)~~, such movements causing the second sheave body ~~(34b)~~ to slide to change a diameter, at which the belt ~~(31)~~ is entrained about the primary sheave ~~(29)~~, and

a plurality of stoppers ~~(66)~~ that restrict movements of the roller weights ~~(45)~~ by contacting with outer surfaces ~~(47a)~~ of the roller weights ~~(45)~~ when the second sheave body ~~(34b)~~ reaches a position of minimum transmission gear ratio, in which a diameter, at which the belt ~~(31)~~ is entrained, is made largest, the stoppers ~~(66)~~ comprising a plurality of projections ~~(81, 82)~~ projecting toward the outer surface ~~(47a)~~ of the roller weight ~~(45)~~, the projections ~~(81, 82)~~ being spaced from each other in an axial direction of the roller weight ~~(45)~~.

13. (Currently amended) A belt type continuous variable transmission comprising

a primary sheave ~~(29)~~ that outputs torque,

a secondary sheave ~~(30)~~ that receives torque from the primary sheave ~~(29)~~, and

a belt ~~(31)~~ entrained between the primary sheave ~~(29)~~ and the secondary sheave ~~(30)~~ in an endless manner to transmit torque of the primary sheave ~~(29)~~ to the secondary sheave ~~(30)~~, and

wherein the primary sheave ~~(29)~~ comprises

a first sheave body ~~(34a)~~,

a second sheave body ~~(34b)~~ provided to be relatively slidable in a direction toward and away from the first sheave body ~~(34a)~~ and forming between it and the first sheave body ~~(34a)~~ a belt groove ~~(37)~~, about which the belt ~~(31)~~ is entrained,

a plurality of push bodies ~~(45)~~ that rotate together with the second sheave body ~~(34b)~~ and move radially of the second sheave body ~~(34b)~~ according to centrifugal forces generated at the time of rotation of the second sheave body ~~(34b)~~, such movments causing the second sheave body ~~(34b)~~ to slide to change a width of the belt groove ~~(37)~~, and

a plurality of stoppers ~~(66)~~ that restrict movements of the push bodies ~~(45)~~ when the second sheave body ~~(34b)~~ reaches a position of minimum transmission gear ratio, in which the belt groove ~~(37)~~ is made smallest in width, the stoppers ~~(66)~~ comprising a first contact portion ~~(120)~~ that contacts with the push body ~~(45)~~ when the second sheave body ~~(34b)~~ reaches the position of minimum transmission gear ratio, and a second contact portion ~~(67)~~ positioned outside of the first contact portion ~~(120)~~ radially of the second sheave body ~~(34b)~~, the first contact portion ~~(120)~~ being lower in hardness than the push bodies ~~(45)~~ and the second contact portion ~~(67)~~.

14. (Currently amended) The belt type continuous variable transmission according to claim 13, wherein the push bodies ~~(45)~~ comprise a roller weight, and at least outer peripheries thereof are lower in hardness than the second contact portions ~~(67)~~ of the stoppers ~~(66)~~.

15. (Currently amended) The belt type continuous variable transmission according to any one of claims 1, 8, 12, and 13, wherein the belt ~~(31)~~ comprises a plurality of block pieces ~~(60)~~ and a connecting body ~~(61)~~ that connects the block pieces ~~(60)~~ together in an endless manner.

16. (Currently amended) A power unit comprising a drive source ~~(14)~~ and a belt type continuous variable transmission ~~(15)~~ interlocking with the drive source ~~(14)~~,

the belt type continuous variable transmission ~~(15)~~ comprising a primary sheave ~~(29)~~ that outputs torque transmitted from the drive source ~~(14)~~,

a secondary sheave ~~(30)~~ that receives torque from the primary sheave ~~(29)~~, and

a belt ~~(31)~~ entrained between the primary sheave ~~(29)~~ and the secondary sheave ~~(30)~~ in an endless manner to transmit torque to the secondary sheave ~~(30)~~ from the primary sheave ~~(29)~~ , and

wherein the primary sheave ~~(29)~~ comprises

a first sheave body ~~(34a)~~,

a second sheave body ~~(34b)~~ provided to be relatively slidable in a direction toward and away from the first sheave body ~~(34a)~~ and forming between it and the first sheave body ~~(34a)~~ a belt groove ~~(37)~~, about which the belt ~~(31)~~ is entrained,

a plurality of push bodies ~~(45)~~ that rotate together with the second sheave body ~~(34b)~~ and move radially of the second sheave body ~~(34b)~~ according to centrifugal forces generated at the time of rotation of the second sheave body ~~(34b)~~, such movements causing the second sheave body ~~(34b)~~ to slide to change a width of the belt groove ~~(37)~~, and

a plurality of stoppers ~~(66)~~ that restrict movements of the push bodies ~~(45)~~ by contacting with outer surfaces ~~(47a)~~ of the push bodies (45) when the second sheave body ~~(34b)~~ reaches a position of minimum transmission gear ratio, in which the belt groove ~~(37)~~ is made smallest in width, the stoppers ~~(66)~~ being shaped to accelerate partial wear of the outer surfaces ~~(47a)~~ of the push bodies ~~(45)~~.

17. (Currently amended) The ~~belt type continuous variable transmission~~ power unit according to claim 16, wherein the drive source ~~(14)~~ comprises an engine having a crank shaft ~~(18)~~ and the primary sheave ~~(34a)~~ receives torque from the crank shaft ~~(18)~~ to be rotated.

18. (Currently amended) The ~~belt type continuous variable transmission~~ power unit according to claim 16 or 17, wherein the push bodies ~~(45)~~ comprise a roller weight and at least outer peripheries thereof are lower in hardness than the stoppers ~~(66)~~.

19. (Currently amended) The ~~belt type continuous variable transmission~~ power unit according to claim 18, wherein the respective stoppers ~~(66)~~ comprise a stopper surface ~~(67)~~ opposed to an outer surface ~~(47a)~~ of the push body ~~(45)~~ and at least one projection ~~(68, 81, 82, 91)~~ projecting from the stopper surface ~~(67)~~.

20. (Currently amended) A vehicle comprising a frame ~~(2)~~, a drive source ~~(14)~~ supported on the frame ~~(2)~~, and a belt type continuous variable transmission ~~(15)~~ interlocking with the drive source ~~(14)~~,

the belt type continuous variable transmission ~~(15)~~ comprising a primary sheave ~~(29)~~ that outputs torque transmitted from the drive source ~~(14)~~,

a secondary sheave ~~(30)~~ that receives torque from the primary sheave ~~(29)~~, and

a belt ~~(31)~~ entrained between the primary sheave ~~(29)~~ and the secondary sheave ~~(30)~~ in an endless manner to transmit torque to the secondary sheave ~~(30)~~ from the primary sheave ~~(29)~~, and

wherein the primary sheave ~~(29)~~ comprises

a first sheave body ~~(34a)~~,

a second sheave body ~~(34b)~~ provided to be relatively slidable in a direction toward and away from the first sheave body ~~(34a)~~ and forming between it and the first sheave body ~~(34a)~~ a belt groove ~~(37)~~, about which the belt ~~(31)~~ is entrained,

a plurality of push bodies ~~(45)~~ that rotate together with the second sheave body ~~(34b)~~ and move radially of the second sheave body ~~(34b)~~ according to centrifugal forces generated at the time of rotation of the second sheave body ~~(34b)~~,

such movements causing the second sheave body ~~(34b)~~ to slide to change a width of the belt groove ~~(37)~~, and

a plurality of stoppers ~~(66)~~ that restrict movements of the push bodies ~~(45)~~ by contacting with outer surfaces ~~(47a)~~ of the push bodies ~~(45)~~ when the second sheave body ~~(34b)~~ reaches a position of minimum transmission gear ratio, in which the belt groove ~~(37)~~ is made smallest in width, the stoppers ~~(66)~~ being shaped to accelerate partial wear of the outer surfaces ~~(47a)~~ of the push bodies ~~(45)~~.

21. (Currently amended) The ~~belt-type continuous variable transmission~~ vehicle according to claim 20, wherein the push bodies ~~(45)~~ comprises a roller weight and at least outer peripheries thereof are lower in hardness than the stoppers ~~(66)~~.

22. (Currently amended) The ~~belt-type continuous variable transmission~~ vehicle according to claim 21, wherein the respective stoppers ~~(66)~~ comprise a stopper surface ~~(67)~~ opposed to an outer surface ~~(47a)~~ of the push body ~~(45)~~ and at least one projection ~~(68, 81, 82, 91)~~ projecting from the stopper surface ~~(67)~~.

23. (Currently amended) A sheave for continuous variable transmissions, comprising

a first sheave body ~~(34a)~~,

a second sheave body ~~(34b)~~ that forms between it and the first sheave body ~~(34a)~~ a belt groove ~~(37)~~, about which a belt ~~(31)~~ is entrained,

the second sheave body ~~(34b)~~ being enabled by a push body ~~(45)~~, which moves radially of the second sheave body ~~(34b)~~ according to centrifugal forces generated at the time of rotation of the second sheave body ~~(34b)~~, to relatively slide in a direction toward and away from the first sheave body ~~(34a)~~, and comprising

a stopper ~~(66)~~ that restricts movements of the push body ~~(45)~~ by contacting with an outer surface ~~(47a)~~ of the push body ~~(45)~~ when slid to a position of minimum transmission gear ratio, in which the belt groove ~~(37)~~ is made smallest in width, the stopper ~~(66)~~ being shaped to accelerate partial wear of the outer surface ~~(47a)~~ of the push body ~~(45)~~.

24. (Currently amended) The sheave for belt type continuous variable transmissions, according to claim 23, wherein the stopper ~~(66)~~ comprises a stopper surface ~~(67)~~ opposed to an outer surface ~~(47a)~~ of the push body ~~(45)~~ and at least one projection ~~(68, 81, 82, 91)~~ projecting from the stopper surface ~~(67)~~.

25. (Currently amended) The sheave for belt type continuous variable transmissions, according to claim 24, wherein the stopper surface ~~(67)~~ and the projection ~~(68, 81, 82, 91)~~ are higher in hardness than the push body ~~(45)~~.